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ABSTRACT

This study determines the periods of peak demands on library services in the Radford University Library, establishes staffing profiles to meet these demands, and projects changes in staffing levels which may in the future modify the library's service capabilities. It is divided into three parts, the first of which applies a data analysis of library use statistics to staffing needs, critically examining current staffing patterns and making recommendations. The second section projects current staffing levels into steady state using both the current state staffing formula and its likely successor, while the third discusses the implications of using the State University of New York (SUNY) public services staffing formula, and offers conclusions and recommendations based on the findings detailed in the first two sections. Attached are the State Council of Higher Education for Virginia (SCHEV) enrollment projections, Radford College enrollment projections, in appendix from the state budget manual, and the Library Advisory Committee report summary. (FM)

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OPTIMIZING LIBRARY STAFFING PROFILES WITHIN STATE GUIDELINES TO ACCOMODATE PEAK DEMANDS;

Radford University Library

Staffing Report

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INTRODUCTION

Access to information and service to library users are functions central to the library mission to achieve maximum effectiveness in these areas, the library requires adequate human resources properly allocated to periods of peak demand. This study seeks to determine these periods of peak demand, establish staffing profiles to meet them, and to project changes in staffing levels which may, in the future modify the library's service capabilities.

Part A applies an analysis of library use statistics to staffing needs, critically examining current staffing patterns and making recommendations. Part B projects current staffing levels into steady state using both the current state staffing formula and its likely successor. Part C undertakes to accomodate the finding of the first 2 sections. Certain conclusions and recommendations are offered.

PART A

INTERNAL STUDY: STAFFING NEED ANALYSIS

I. Data Analysis

Since January 1975, the staff of Radford College Library has measured the number of users present in the library at 6 times daily: 10:30 a.m., 12:30 p.m. 2:30 p.m., 7:30 p.m., 9:30 p.m. and 10:30 p.m. These particular times were chosen in an attempt to survey use during most of the day. Measurements were taken at the half-hour (instead of on the hour) because experience and intuition indicate that the lease amount of in/out traffic occurs in the middle of the hour. Measurement on the hour, for example, might be biased by the fact that many users will have just left for class, or will be incoming, having not yet arrived from a class just concluded. Measurements were taken at 10:30 p.m. to determine if leaving the library open until 11:00 p.m. was justified.

Charts were placed at the service desks on each floor. At the measurement times, on-duty staff counted all people (other than staff) present in the building. It is recognized that being in the library is not synonomous with use, but for this study, a library user is operationally defined as a non-staff person present in the building at the measurement time. Normal hours of operation for the library are:

(Hours of Operation)

Monday	8:00 a.m.	to	11:00 p.m.
Tuesday	8:00 a.m.	to	11:00 p.m.
Wednesday	8:00 a.m.	to	11:00 p.m.
Thursday	8:00 a.m.	to	11:00 p.m.
Friday	8:00 a.m.	to	5:00 p.m.
Saturday	8;00 a.m.	to	5:00 p.m.
Sunday	2:00 p.m.	to	11:00 p.m.

Use data were summarized and included in monthly reports to the Library Director. These reports are the source of information for this analysis. All data examined were averages for times and periods. While many measurement times were missed, no pattern is evident. We have no reason to suspect the integretity of the data.

Table I lists the average number of library users present at the times indicated for all months of the study. Monthly and time-of-day averages have also been calculated.

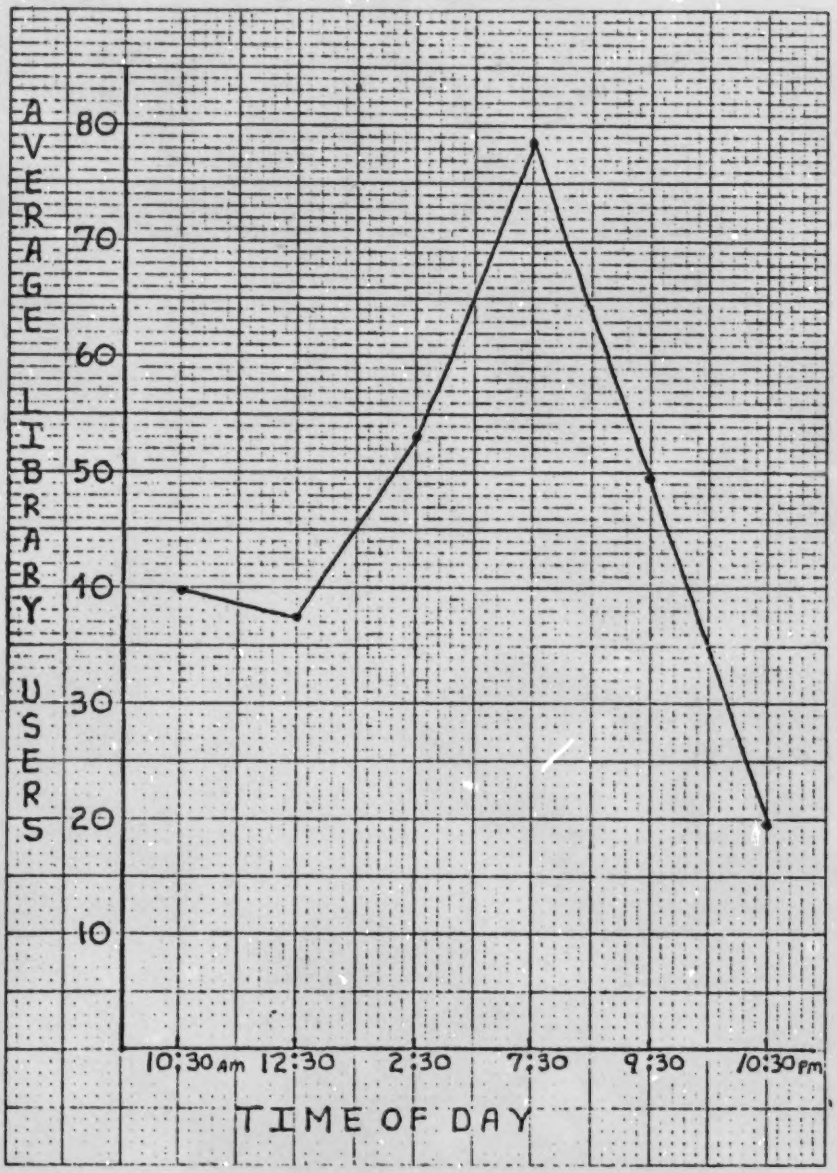
TABLE - I LIBRARY USERS BY TIME OF DAY

Period	Time of Day						
	10:30a.m.	12:30	2:30	7:30	9:30	10:30	Period Average
Jan. 1975	40	31	59	87	41	14	45.3
Feb. 1975	40	38	71	88	59	20	52.7
Mar. 1975*	41	37	66	79	54	19	49.3
Apr. 1975	43	37	64	84	53	17	49.7
May 1975	39	40	70	85	57	18	51.5
June 1975	60	39	26	33	21	10	31.5
July 1975	53	33	31	29	18	10	29.0
Aug. 1975	21	20	19	24	14	7	17.5
Sep. 1975	32	28	41	77	49	12	39.8
Oct. 1975*	40	77	61	110	63	28	63.2
Nov. 1975	48	49	84	113	65	40	66.5
Dec. 1975	31	33	52	58	37	13	37.3
Jan. 1976	42	46	70	116	62	26	60.3
Feb. 1976	49	42	78	114	71	22	62.7
Mar. 1976	32	32	40	80	50	16	41.7
Apr. 1976	37	25	45	98	73	29	51.3
May 1976	38	27	42	101	68	24	50.0
June 1976	34	36	28	31	22	8	29.8
July 1976	26	19	27	25	15	5	19.5
Aug. 1976	22	20	20	14	11	4	15.2
Sep. 1976	34	30	46	83	34	19	44.3
Oct. 1976	42	82	67	124	87	36	73.0
Nov. 1976	53	46	81	120	76	43	70.2
Dec. 1976	35	35	55	75	42	23	44.2
Jan. 1977	42	44	83	116	62	24	61.8
Time	39.8	37.8	53.0	78.6	49.1	19.6	46.32

*Data By Interpolation

The first fact to be derived from this information is that library use widely varies by time of day. Figure I shows the average number of users present at the measurement times.

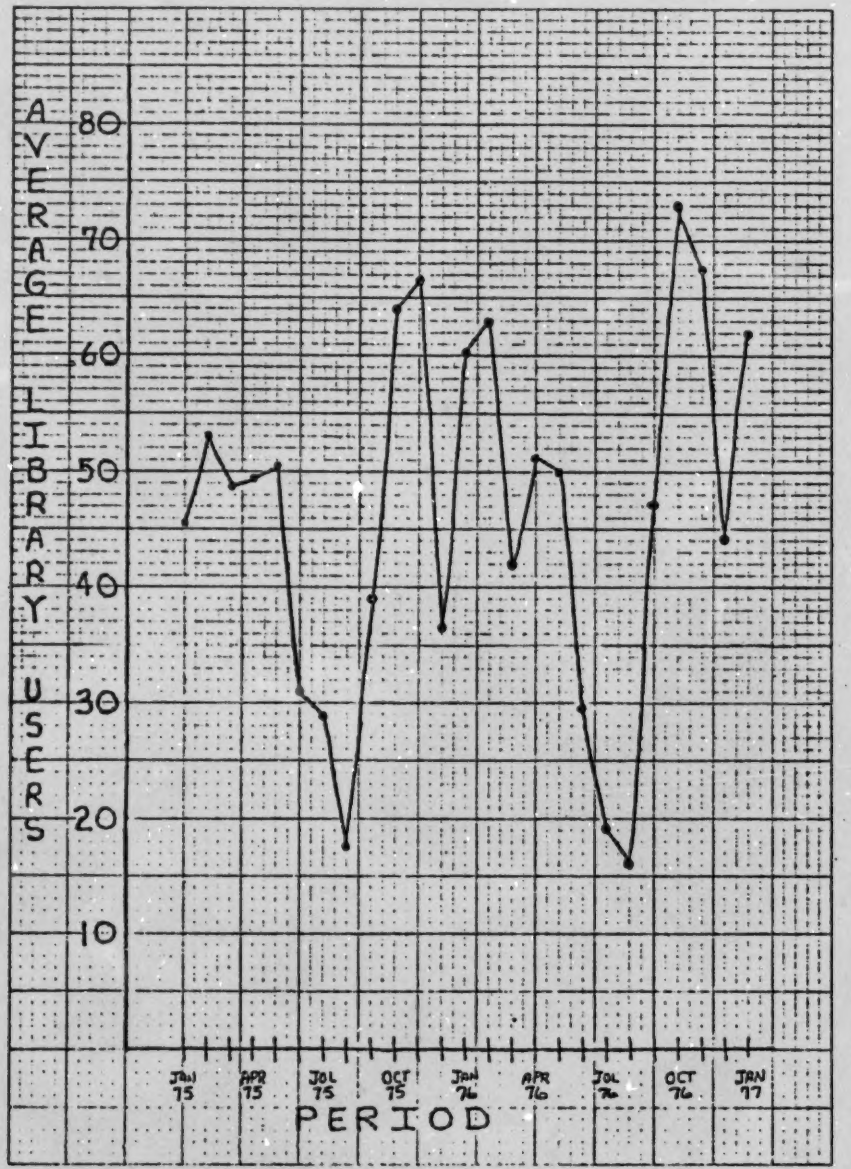
FIGURE - I LIBRARY USERS BY TIME OF DAY



Throughout this 2-year study, 7:30 in the evening has been the busiest time. The least busy time of the day was at 10:30 p.m. Experience of the reference librarians supports the data gathered. They state that library use has been heaviest in the early evening, declining steadily until closing time.

Figure 2 graphically displays the average number of users present in the library at any given time during each measurement month.

FIGURE - II LIBRARY USERS BY MONTH AND YEAR



This graph demonstrates that library use widely varies by time of year. No significant overall increase in library use is detectable during this 2-year period.

Examination of the trend line in figure II indicates that use might be cyclical. The lowest periods of use seem to be during the summer and highest periods of use are during the fall.

Table II examines this cyclical characteristic by listing the average number of uses present at the measurement times during each academic quarter. Averages for time of day are given (same as in Table I) and averages for each quarter are shown.

TABLE - II

LIBRARY USERS BY TIME OF DAY, QUARTERLY AVERAGES AND ANALYSIS OF VARIANCE

	Time of Day						
Period	10:30a.m.	12:30	2:30	7:30	9:30	10:30	Average
Fall Quarter	41.8	52.0	63.3	104.5	65.7	30.0	59.5
Winter Quarter	39.8	38.4	66.8	93.4	53.4	20.2	52.0
Spring Quarter	38.3	33.0	54.5	87.8	59.2	20.5	48.9
Summer	39.3	27.8	25.2	26.0	17.7	7.3	23.8
Average	39.8	37.8	53.0	78.6	49.1	19.6	46.0

2 - Way ANOVA Table

Source of variability	Sum of squares	Degrees of freedom	Variance estimate	Expectation of mean square
Rows	4317	3	1439.	———
Columns	7696	5	1539.	———
Interactions	1982	15	132.	———
Total	13,995	23	—	———

H_r & H_c are hypotheses of no variance (null)

F for $H_r = \frac{1539}{132} = 11.659$ Rejected at $\alpha = .01$

F for $H_c = \frac{1439}{132} = 10.902$ Rejected at $\alpha = .01$

Conclusion: The variance in the average number of individuals present in the library at certain daily times in each quarter is statistically significant at the .01 level.

2-way analysis of variance was perfcrmed to test the following nullhypotheses.

H_r: There is no significant difference in the average number of users in the library at any given time between academic quarters.

H_c: There is no significant difference in the average number of users in the library at any given time of day.

The "F" statistic was calculated for both hypotheses. Both H_r and H_c were rejected at least the .01 level of significance. The conclusion to be drawn is that the variance in the average number of individuals present in the library at certain daily times in each quarter is statistically significant. There is less than a 1% chance that the wide variance shown in Table II is due purely to chance.

Two other compilations of the data were made in this analysis. These tables basically support facts which have been intuitively assumed for some time.

TABLE - III LIBRARY USERS PER FLOOR OF LIBRARY

Period		Ground (Periodicals)	First (Main)	Second (INC)	Third (Stacks)
July	1975	7.1	8.1	5.5	7.0
August	1975	4.3	5.1	3.5	4.4
November	1975	14.9	29.5	13.5	8.6
March	1976	8.9	18.1	8.8	5.9
July	1976	4.9	5.7	3.8	4.9
August	1976	3.9	4.5	3.0	3.8
September	1976	9.2	18.5	9.1	6.1
October	1976	16.3	28.5	14.3	7.9
November	1976	15.8	31.1	14.3	9.1
December	1976	11.5	15.7	8.5	5.7
Average		9.69	16.48	8.43	6.34
Proportions		.24	.40	.21	.15
Rankings		2	1	3	4

Note: Overall rankings 1 and 2 held consistent within each sample period; overall rankings 3 and 4 had some variance within ranking periods

Table III shows the average number of library users present at any given time on each floor of the library for certain measurement periods. Rankings and proportions for each floor are shown. It has always been assumed that the main floor of the library enjoyed the greatest use because:

1. It is the only floor of entrance to the building
2. The main reference desk is located on the main floor
3. The card catalog is located on the main floor
4. The circulation desk is located on the main floor

The data support the assumptions; indicating that nearly twice as many people are present, on the average, on this floor than on any other floor.

The ground floor was assumed to be second busiest because it houses the periodicals stacks and indexes. Data also support this assumption.

The final approach to the data was by day of the week. Table IV gives this information. Experience indicates that the library was generally busier during the week than on weekends. Radford College, more than many institutions, experiences a mass exodus of the sutdent body on weekends. Students often begin to leave on Thursday evenings. The use data support these broad conclusions. As shown by the figures for weekend use during July and August, the exodus of students is more extreme during the summer. Analysis of the use of facilities at Claytor Lake, Mountain Lake, Miscellaneous rivers and creeks, and isolated valleys and mountaintops might offer an explanation.

TABLE - IV LIBRARY USERS BY DAY OF THE WEEK

	DAY OF WEEK						
Month	Mon.	Tues.	Wed.	Thrus.	Fri.	Sat.	Sun.
January	70.3	68.8	70.3	55.2	37.9	55.3	63.2
Feb. - June	----	----	Not Available		----	----	----
July	21.4	27.6	42.7	15.0	21.8	10.3	9.6
August	22.4	20.8	20.6	17.0	12.2	19.7	12.7
September	47.0	56.6	47.6	38.6	20.3	28.7	32.2
October	71.5	96.5	72.6	68.8	40.6	38.3	60.2
November	81.3	73.3	83.8	76.0	44.0	52.0	60.7
December	49.3	49.0	45.0	41.2	27.1	41.3	41.2

II. The Literature on Library Staffing

For this report, the literature was reviewed for information on library staffing. It was felt that a quantitative guideline was needed for application to the data presented in Section I.

The literature strangely contains no quantitative standards for reference service in academic libraries. No suggestions have been published which would help determine either the minimum or optimal number of patrons which can be given reference service by a librarian. Staff in labraries is typically not authorized from a user-need point of view.

Staffing of academic libraries is typically determined by formulas which include such variables as:

1. size of the student body and faculty
2. size of the library collection
3. amount of the book budget
4. some relationship to current staff size
5. a proscribe ratio between librarians and clerical support personnel.

While these variables may, in some cases, provide for an indirect measurement of library use, they do not allow consideration of actual, measured use. Size of the student body and faculty, for example, provides on a rough, theoretical indication of library use. Actual use of the library is a function of such factors as dedication of students and faculty, requirements for use dictated by the faculty, and the lbirary's previous record of satisfaction of user needs.

The conclusion to be drawn from examination of the sparse library literature on staffing, and from personal experience, is that allocation of staff to reference duties is based largely on a trial-and-error approach to satisfaction of user needs given the human resources available. Assignment of librarians to reference desk duty is not normally accomplished through quantitative analysis.

III. Staffing Needs

As noted in the previous section, no quantitative standards for reference service by measured number of users exists. For the purpose of this study, experience indicates that the following standards may be applied:

Anticipated number of users	Necessary staffing
30 or less	1 librarian
31 to 59	1 librarian & 1 clerk
60 to 89	2 librarians
etc.	

Regretably, there is no imperical evidence to support these figures. Measurement of user satisfaction at differing levels of service would validate these intuitive feelings or, most likely, modify them.

Table V shows the minimum and maximum average number of users present on the different floors of the library. The data was derived from highest and lowest values of Table II. The mean proportions of any given number of users comes from Table III.

TABLE - V

AVERAGE LIBRARY USERS PER FLOOR BY TIMES OF MEASUREMENT
MINIMUM
MAXIMUM

Floor	Average Proportions	10:30a.m	12:30	2:30	7:30	9:30	10:30p.m.
Ground	.24	9.3 10.0	6.7 12.5	6.0 16.0	6.2 25.1	4.2 15.8	1.8 7.2
Main	.40	15.3 16.7	11.1 20.8	10.1 26.7	10.4 41.8	7.1 26.2	2.9 12.0
Second	.21	8.0 8.8	5.8 10.9	5.3 14.0	5.5 21.9	3.7 13.8	1.5 6.3
Third	.15	5.7 6.3	4.2 7.8	3.8 10.0	3.9 15.7	2.6 9.8	1.1 4.5
Totals		38.3 41.8	27.8 52.0	25.2 66.8	26.0 104.5	17.7 65.7	7.3 30.0

Application of the standard to this time/floor matrix clearly shows needs. Most relivant to this analysis is examination of the weekday hours on the ground and the main floors. The second floor is not considered in need analysis since it contains the Instructional Materials Center and is not, by definition, staffed by the Public Services Division. The third floor is excluded from staffing consideration because it contains only book stacks and study carrols. Weekends are excluded from close examination because of their low averages. They require the minimum: 1 librarian.

Examination of the data for the main floor reveals the fact that users, on the average, are never more than 30, except in the early evening. This means that during most hours of operation, only 1 librarian needs to be on duty. Averages are higher during the fall, winter, and spring quarters showing that during these periods, 1 librarian plus 1 information clerk should be on duty.

A separate, serials, reference station is maintained on the ground floor. Table V reveals that 1 librarian will be sufficient to man this work station at all hours. The average number of users never exceeds 30 even during the peak quarter (fall) at the peak time (7:30).

The current staffing by the reference stations on the ground floor on weekday evenings is not sufficient, based on the assumptions of this study. On weekday evenings, the ground floor is covered by 1 librarian or 1 clerk. The main floor is manned by 1 librarian. With the exception of summer term, the main floor is always substandard in the early evening. The ground floor is substandard when a clerical worker is on duty at the reference desk. The obvious conclusion is that more people are needed in Public Services. This conclusion is especially warranted when one considers the fact that current staffing of reference includes the part-time use of Technical Services and Instructional Services staff. The reduction of human resources in these divisions must be added to the staff deficiency.

Long-term projections for student enrollment at Radford College show that 20% more students will be present in 10 years. One cannot, of course, apply this figure directly to potential library user for the reasons stated earlier. Application of this 20% increase to the maximum potential users shown in Table V indicates that this growth in the size of the student body would not change projected reference needs, even if this increase directly increased library users by the same proportion.

Now that the library's Public Services needs, have been identified, the most important question is: What human resources will be allocated to the library in the next decade? This question is examined in Part B.

Part B: Staffing Projections

Purpose

The purpose of this study is to examine the staffing guidelines outlined in Appendix M of the Virginia Budget planning manual and to project probable maximum staffing levels of the Radford College Library through 1987-88 when "steady state" enrollment is to be obtained. Two secondary purposes motivate the study. First, there was a desire to compare current staffing to staffing levels at other senior colleges in Virginia. Secondly, because the Library Advisory Committee of the State Council of Higher Education in Virginia (SCHEV) has been authorized to investiage alternative staffing guidelines and has already submitted tentative recommendations, the results of that study have also been projected to "steady state". This second set of projections permits an estimate of maximum staffing levels should the recommendations of the Library Advisory Committee be adopted by SCHEV in subsequent biennia. Finally, because the ability of the library to support its public services responsibilities is directly related to the size of its Public Services staff, the possible effects of the staffing projections were examined for their potential impact on internal staffing profiles. Based on projections, an optimal division of maximum staffing levels among the library's three divisions (Public Services, Technical Services, Instructional Services) was recommended.

Background

The Radford College Library is currently authorized 23 staff positions. Of these, 10 are professional teaching and research positions (prerequisite: MLS degree from an accredited library school) and 13 are classified positions. Of the latter, 3 are library assistant classifications, requiring a bachelor's degree; the other ten are laboratory-mechanic

and clerk typist positions of various levels. The organizational structure is shown in Table 1 on the following page. The staffing profile of the library (10 professional, 13 classified) is in excess of the 35-65 guideline established in Appendix M (Attachment C); no professional positions will be added until the distribution reaches 10 professional and 20 classified positions.

Data

Data used in this study are drawn from recent SCHEV projections of enrollment in Virginia colleges (Attachment A); the Radford College inputs to that report (Attachment B); the guidelines issued in Appendix M to the Budget Planning Manual (Attachment C); the 1976 report of the ad hoc Subcommittee on Staffing of the Library Advisory Committee (SCHEV) (Attachment D), and the projections of various Radford College indices through 1988 (Chart C). Computations for staffing levels reported on Chart C are reported in Attachment E.

Assumptions

Several assumptions accompany the study. Dominant is the assumption that the Radford College Library will never attain its full complement of authorized staff. The Library is currently staffed at 88% of authorization; it is assumed that staffing levels will not exceed 93% of authorization during the period under study.

It is further assumed that the College will continue to grow at a pace slightly more rapid than overall enrollment in the senior colleges in Virginia, that it will reach "steady state" at a later date, and will not begin to show an enrollment decline (FTE or headcount) during the period under study (see Chart A). These assumptions are objectively grounded in the reports issued by the State Council of Higher Education

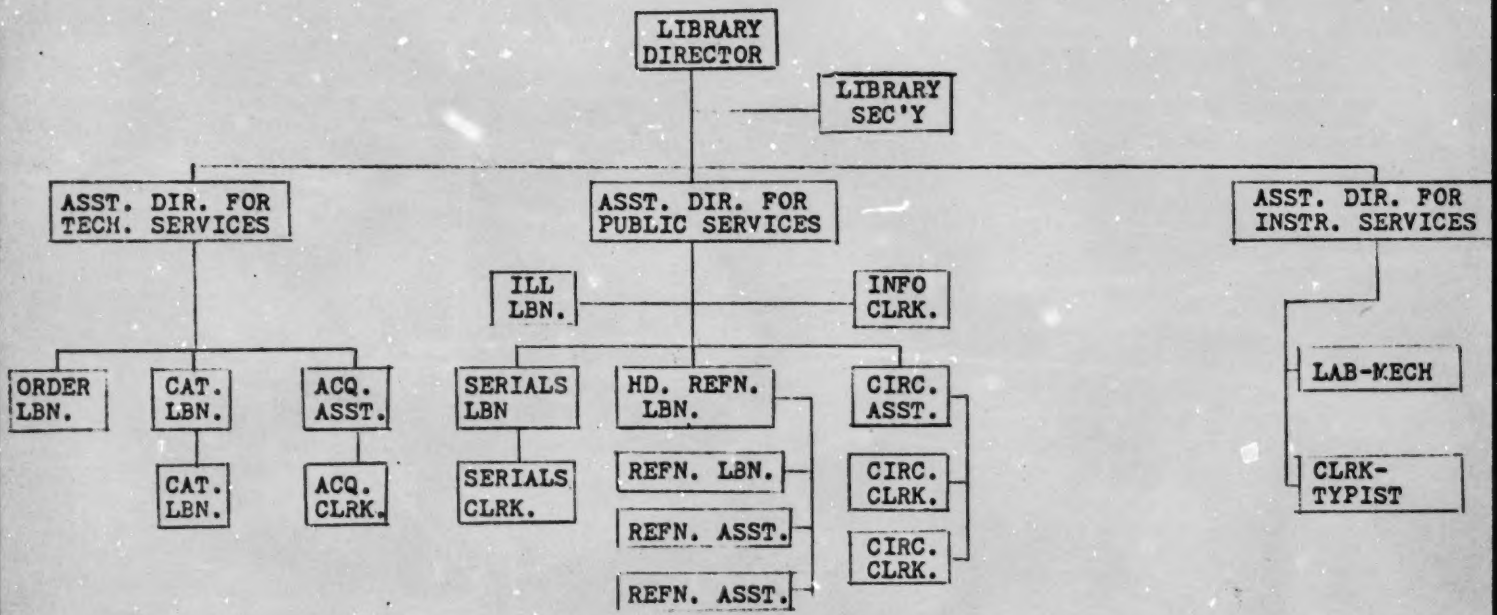
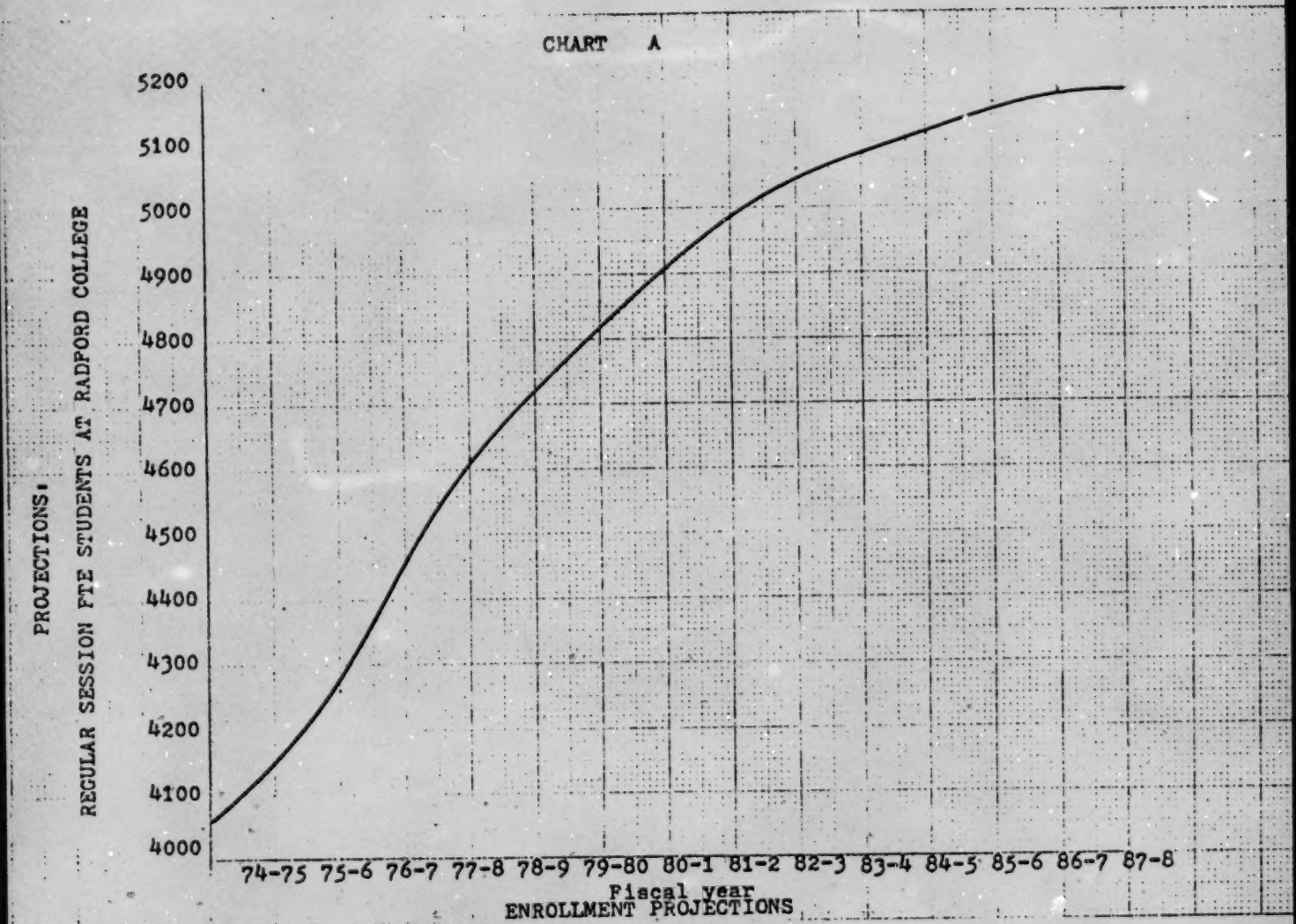


TABLE 1

ORGANIZATION CHART--CURRENT
Radford College Library

CHART A



ENROLLMENT PROJECTIONS

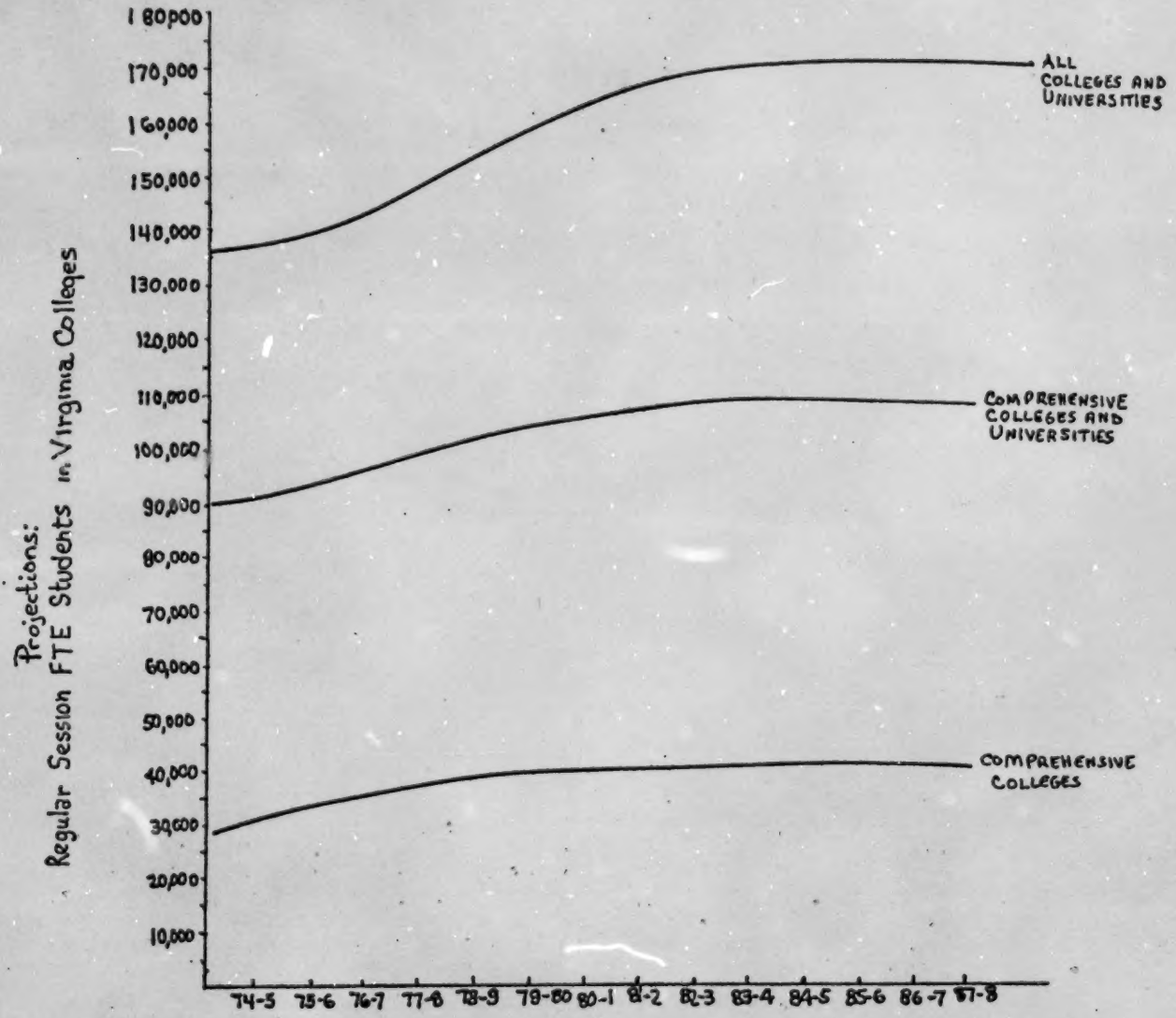


CHART B

ENROLLMENT PROJECTIONS

(Attachment A) and the input submitted to SCHEV by the Radford College Office of Institutional Research (Attachment B). The assumption is also supported by unique institutional circumstances such as the current male-female ratio, admission requirements and rapidly growing degree programs (particularly at the graduate level) which seem to justify projections of continued slow growth.

Because student enrollment is a driving factor in the allocation formula currently in use by state budgeting agencies (Attachment C), a steady increase in the library's materials budget is assumed during the period under study. The fluctuations in projections during the first six years of the projections (Chart C) can be explained by a turnaround in enrollment in the first instance and by a change in the funding formula in the second instance.

Other driving factors in some staffing formulas are affected by the size of the materials budget. The rate of acquisitions of new materials, adjusted for inflation, is also projected out through 1988. While inflation cannot be estimated with certainty, it is based on projections in the library literature, adjusted to reflect local acquisitions policy (e.g., paperbacks are purchased when available). Gifts, which also influence the acquisitions rate are held constant at 2,000 volumes throughout the period under study. Central to the projections of acquisitions is the problem of rampant serials inflation. It is assumed that the library will continue to add very few serial titles to its collection and the primary factor in the increase in the serials budget will be inflation. Projections are for an annual rate of inflation in serials of 16 per cent, down from the 20-30 percent increases experienced in recent years. This estimate is based on information

CHART C

PROJECTION SUMMARY
RADFORD COLLEGE, 1974-1988

YEAR	74-75	75-76	76-77	77-78	79-80	80-81	81-82	82-83
FTE Students[1]	4150	4260	4460	4617	4759	4905	5015	5052
HC Students[1]	4520	4721	4895	5054	5204	5357	5422	5474
Faculty[2]	238	248	259	269	277	286	289	292
Collection[3] Size	124520	131048	142498	154698	169973	184661	198888	212496
Vols. Added/[3] Year	4300	6528	11450	12200	15275	14688	14227	13608
Book Price[5]	-	-	11.75	12.45	13.20	13.95	14.70	15.50
Materials[6] Budget ($)	66000	67000	148000	170000	225000	235000	246750	259087
Serials Budget ($)	27000	33000	37000	43000	50000	58000	67000	78000
Monograph Budget ($)	39000	34000	111000	127000	175000	177000	179750	181087
Staffing: CUNY	25	26	26	28	28	28	29	29
Staffing: SUNY	20	22	30	31	35	36	36	36

Notes:
1. Institutional Research Projection
2. Constant student-teacher ration based on 1976-77 base year
3. Book budget/Book price + 2000 annual gifts
5. Inflation projections corrected to reflect local acquisitions policy
6. 5 per cent annual increase after 1978-80 biennium
7. Constant 16 per cent annual increase

RADFORD COLLEGE GROWTH PROJECTIONS

CHART C

PROJECTION SUMMARY
RADFORD COLLEGE, 1974-88
(CONTINUED)

YEAR	83-84	84-85	85-86	86-87	87-88
FTE Students	5081	5113	5160	5178	5177
HC Students	5545	5584	5628	5648	5647
Faculty	296	298	300	301	301
Collection Size	237850	249547	260420	270500	279691
Vols. Added/ Year	12322	11697	10873	10080	9191
Book Price ($)	17.50	18.45	19.60	20.75	22.00
Materials Budget ($)	285643	299926	314922	330668	347202
Serials Budget ($)	105000	121000	141000	163000	189000
Monograph Budget ($)	180643	179926	173922	167668	158202
Staffing: CUNY	29	29	30	30	30
Staffing: SUNY	35	35	34	34	33

obtained in consultation with several serials brokers in recent months. According to these calculations, serials will absorb an increasingly larger share of the materials budget. Because the library does not commercially bind its serials and because no significant increase in the number of active subscriptions now handled by the Serials Department is anticipated, serials volumes (some 2,000 annually) are not included in the acquisitions projections in Chart C. Should the library subsequently be permitted to enter these bibliographic units in its projections, staffing levels under the SUNY formula could be increased by one staff member in subsequent biennia.

Collection size, the final driving factor in formulas used in the projections is based directly on acquisitions rate. No provisions are made for weeding or storage of little used materials in an off-site storage facility. The capacity of the Radford College Library will not be exceeded in the period under study and while an active weeding policy will be followed, it is not anticipated that it will be of a magnitude sufficient to affect staffing.

Analysis

Current staffing levels. As explained in the report of the ad hoc committee on staffing (Attachment D, p. 1) staffing levels in the state colleges and universities are determined by a modification of the guidelines used by the City University of New York (CUNY). Because certain staffing considerations in the CUNY formula (weekend and evening operations, for example) were excluded from the Virginia modification, serious problems have been created, especially for the larger universities and multi-campus institutions. When these discrepancies were reported to the Library Advisory Committee, the creation of the ad hoc committee was authorized to investigate the staffing question.

From a survey of participating state colleges and universities, the profiles reported in Table 1 of the ad hoc report (Attachment D, p. 11) were obtained. The following variations between "requested" (probable), "ideal" (a subjective estimate) and "authorized" staffing levels were obtained:

Colleges	Requested FY 76-77	Ideal	CUNY	Ratio CUNY/Ideal
Clinch Valley	11	16	12	.75
Christopher Newport	13	18	17	.95
George Mason	38	43	52	1.22
Longwood	18.5	23	19	.83
Madison	40.5	52	34	.65
Mary Washington	16	18	17	.94
Radford	23	28	26	.93
VCU	124	144	109	.76
UVA	209.5	234	125	.53
VPI & SU	133	15[illegible]	115	.77
W & M	67	75	39	.52
Va. State	26	32	28	.87

The inapplicability of the CUNY formual to Virginia is indicated by the fact that five colleges were already requesting staffing considerably in excess of the levels allowed under its guidelines (University of Virginia, Virginia Polytechnic and State University, Virginia Commonwealth University, the College of William and Mary, and Madison College). In eleven of the 12 instances, library directors reported ideal staffing levels that exceeded the guidelines. A separate, and perhaps more serious, problem was the staffing of seven colleges below the levels of the guidelines; in the case of George Mason University, requested staffing was but 73 per cent of formula authorization. Radford College requested (and received) staffing at 88 per cent of guidelines. The case for rejecting the CUNY formula was made.

Alternatives. Given this documentation, the ad hoc committee searched the literature for existing formulae that more clearly matched

the perceptions of staffing needs but yet were not so "rich" as to be unacceptable to state budgeting officials. Among the alternatives investigated were formulas from Colorado, Washington, California, the State University of New York (SUNY) and the new Standards for College Libraries established by the Association of College and Research Libraries (ACRL). (The formulas themselves may be found at the end of the ad hoc committee report, Attachment D). From the data compiled, the SUNY formula was determined by the "least squares" $\Sigma(x-y)^2$ method to most closely fit the "ideal" staffing statements of library directors:

	Ideal	SUNY	Ratio: SUNY/Ideal
Clinch Valley	16	12	.75
Christopher Newport	18	19	1.06
George Mason	43	54	1.27
Longwood	23	20	.87
Madison	52	52	1.00
Radford	28	30	1.08
VCU	144	123	.85
UVA	234	246	1.05
VPI & SU	150	193	1.28
W & M	75	80	1.06
Va. State	32	30	.94
Mary Washington	18	34	1.88

In eight of the twelve cases, the SUNY formula generated figures slightly higher than the state "ideal" levels. In no case, however, did the excess appear to be of a magnitude that would lead to a rejection of the formula by state budgeting authorities. While the recommendations of the committee were not adopted by SCHEV for the upcoming biennia, the SUNY formula (slightly modified by the committee) was selected as the alternative formula to be used in projecting Radford College Library staffing through to "steady state". If staffing at 93 per cent of authorization could be achieved, Radford College would achieve its "ideal" staffing level of 1976.

Implications. Comparatively, Radford College Library fares better than most colleges under either formula. Expressed in rank order, Radford rates fourth under both. In contrast to CUNY, the SUNY formula provides maximum staffing in excess of the stated "ideal" requirements reported to SCHEV in Attachment D. However, full funding is seldom obtained in the state's budgeting process: the SUNY formula, if funded at 93 per cent, would produce the "ideal" staffing level of 28 personnel. For this reason, Radford College supports the adoption of the SUNY formula, a position that is likely to be supported by the other state institutions as the Library Advisory Committee pushes for the implementation of new staffing guidelines.

Summary

Assuming that the CUNY formula will remain the staffing guideline through the projection period and that Radford College will be permitted staffing at 93% of authorization (ten professional positions), the following staffing levels can be anticipated:

	Authorized by CUNY	93% Staffing	Professional	Classified
1976-77	26	24	10[1]	14
1977-78	28	26	10	16[2]
1978-79	28	26	10	16
1979-80	28	26	10	16
1980-81	28	26	10	16
1981-82	29	27	10	17[3]
1982-83	29	27	10	17
1983-84	29	27	10	17
1984-85	29	27	10	17
1985-86	30	28	10	18[3]
1986-87	30	28	10	18
187-88	30	28	10	18

[1]The Library will not seek to increase its professional positions until it achieves the 33-66 professional-classified guidelines set by SCHEV

[2]no staffing increases are anticipated in second year of current biennium

[3]addition in 2[d] years of subsequent biennia may also be unlikely

If these staffing levels are achieved, the library can anticipate a net gain of five classified positions during the period under study (the library currently has 23 staff members, rather than the 24 that it could have had it achieved a 93% staffing level during the current biennium). Current plans are to add one additional clerk-typist to Cataloging, one to Order (typist) and one to Instructional Services (graphics). Public Services will probably not realize additions until FY 1982-83, when an additional clerk-typist will be added to Circulation. Not until FY 1986-87 will the Reference Department gain an additional Reference Assistant under CUNY guidelines.

However, inasmuch as the judgment of library administration placed the ideal staffing level in 1976 at 28 (the level achieved in FY 1982-83 under CUNY guidelines) it is doubtful that the library could maintain current services with 23 staff members should the student and acquisition workload increase over the next decade as projected. Should the SUNY guidelines be enacted in the 1980-82, the situation will be improved somewhat:

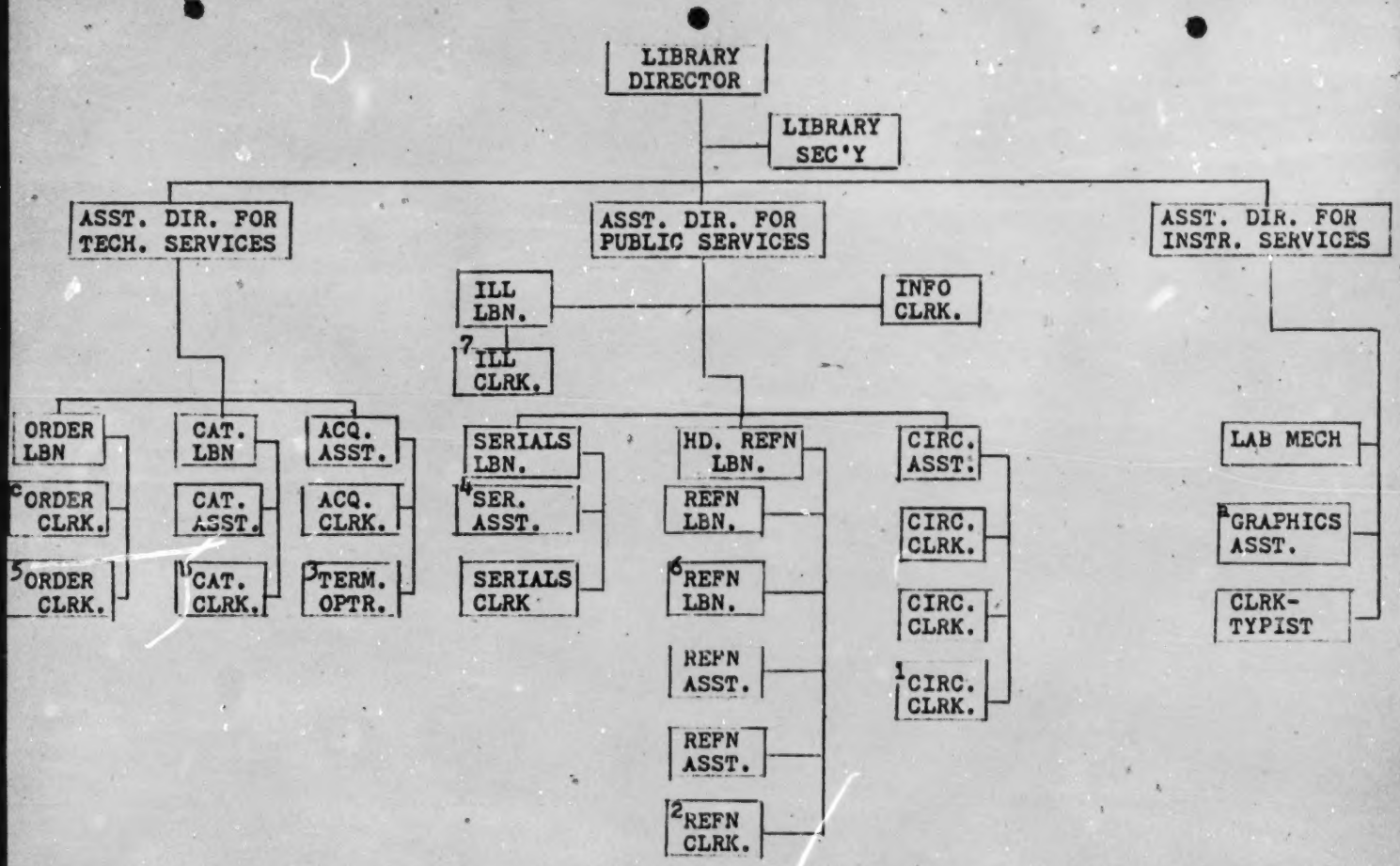
	Authorized by SUNY	93% Staffing	Professional	Classified
1980-81	36	33	11	22
1981-82	36	33	11	22
1982-83	36	33	11	22
1983-84	35	33	11	22

	Authorized by SUNY	93% Staffing	Professional	Classified
1984-85	35	33	11	22
1985-86	34	32	11	21[1]
1986-87	34	32	11	21
1987-88	33	31	10	21

[1]change in second year of biennium not anticipated.

In anticipation of increased staffing levels under the SUNY formula, Radford College staff have projected the staff distribution as of the FY 1980-82 biennium to accomodate as many as seven additional personnel. The distribution is found at Table 2 on the following page.

Thus through 1985-86, the Radford College Library must project service profiles according to two very different scenarios. Under the present CUNY staffing pattern current growth projections would produce maximum staffing levels of 28 total staff. Of these, 10 would remain as professional positions and there would be no increase in Public Services staff until FY 1982-83, with no gains in Reference until FY 1986-87. However, if the SUNY guidelines are adopted by SCHEV and the Budget office in the FY 1980-82 biennium, a sudden and dramatic improvement in staffing can be anticipated, permitting the addition of five Public Services staff during the first year of that biennium, including a professional reference librarian. These in turn would produce sharp changes in staffing patterns, relieving Technical and Instructional Services of public services support responsibilities they must now provide. These changes are projected in the attached joint report with the Assistant Director of Technical Services. As a final note, current growth projections suggest a decrease in staffing during the final biennium under study (see page 19). However, since the maximum staffing allowed by SUNY would still permit a total of 33 staff, and staffing had been held to that level earlier because of



a. added under CUNY FY 78-80
b. added under CUNY FY 78-80
c. added under CUNY FY 78-80

1. added under CUNY FY 82-83, or SUNY 80-81
2. added under CUNY FY 86-87, or SUNY 80-81

3. added under SUNY 80-81
4. added under SUNY 80-81
5. added under SUNY 80-81
6. added under SUNY 80-81
7. added under SUNY 80-81

TABLE 2

RCL ORGANIZATION CHART--PROJECTED

anticipated political constraints, it is felt that the library will be permitted to retain staffing at 33 total staff through FY 1987-88.

Part C

Public Services Staffing Profiles
Under SUNY Formula

Implications

Should the SUNY formula be adopted in FY 1980-82, the staffing prfile of the Radford College Library will improve sharply. Under the formula's guidelines, six professional librarians and three library assistants will be included in the complement of personnel comprising the Public Services Division. These nine staff members, trained to various levels of proficiency in reference service, would be able to meet the weekday (Monday-Friday) reference and information needs of the division. The Assistant Director for Public Services and the three reference librarians would provide coverage of the main floor information desk and would supervise building operations Monday through Thursday night (the library is closed on Friday night). The other Public Services personnel-two professional librarians and the three library assistants-would rotate coverage of the ground floor reference station. Currently, staff from other areas of the library are required to provide eight hours of support weekly to Public Services evening responsibilities.

Week-end responsibilities will continue to be shared by all professionals and library assistants, a decision based more on morale factors rather than a concern for optimal effectiveness. The substantial increase in staffing will reduce the frequency with which staff are called upon for week-end duty. On the average, fifteen staff members currently work an average of 1.5 week-end days per quarter. Under SUNY, there would be 18 professionals and library assistants to share the duty, permitting each to work an average of 1.2 week-end days per quarter.

Staff members from Technical and Instructional Services would be required to serve but eight man-days per quarter, as opposed to eleven under current constraints.

In addition, clerk-typists currently provide back-up support at the ground-floor reference station on Sunday evenings, when there is only one other staff member on duty. Currently, seven staff members average six hours of work per quarter in this support role. Under SUNY formulations, fourteen staff members would work an average of three hours per quarter.

Altogether, some 109 man hours per quarter would be diverted from Public Services support and returned to Technical and Instructional Services for use there (a savings of some 13.6 man-days):

TS & IS Man-hours in support of Public Services

	Current	SUNY
Weekday evenings	88	0
Weekends (Prof. & Lib. Asst.)	88	64
Weekend (clerical)	18	21
	194	85

Equally important, staffing of the library's two reference stations can be up-graded during the normal 8AM - 6PM work-week. Current staffing requires that the two reference librarians share duty at the information desk with two reference assistants, the information clerk, and the Serials librarian. Occasional support is provided as required by the Interlibrary Loan Librarian and the Serials clerk:

Reference Desk Staffing
8AM - 6PM Monday-Friday

	Weekly Hours (current)	Weekly Hours (SUNY)
Reference lbn.	15	15

Reference Desk Staffing (cont.)

	Weekly Hours (current)	Weekly Hours (SUNY)
Reference lbn.	15	15
Serials lbn.	15	0
Reference Asst.	15	15
Reference Asst.	15	15
ILL lbn.	2	0
Serial clerk	3	0
Info. clerk	18	20
Reference lbn.	-	18
	98 hrs.	98 hrs.

With the addition of a third reference librarian, the additional responsibilities of the professional reference staff could be shared proportionately, and each librarian would be free to staff reference stations during periods of highest demand. The two reference assistants would take periods of lighter demands, and the information clerk, trained in rudimentary skills, would take periods of lightest loads. As mentioned previously, the three reference librarians and the Supervisor of Public Services would also be on duty week-day evenings, providing professional service at the main reference station during the period of heaviest peak load (see Figure 1, Part A).

Conclusion and Recommendations

Whether or not the library will achieve staffing at the level permitted by the SUNY guidelines is conjecture at this point. It is entirely possible that the institution may be forced to remain at staffing levels dictated by CUNY formulations. If so, Public Services has already entered what is effectively a steady state staffing situation. Any staffing increases

achieved under the current guidelines will be directed toward clerical needs, reflecting efforts to maintain services at existing levels in the face of increased demand. Because many vital functions are held at substandard levels by inadequate staffing, the steady state profile determined by CUNY is unacceptable. Radford College should continue to press for the adoption of the SUNY staffing formula.

Attachment A

STATE COUNCIL OF HIGHER EDUCATION FOR VIRGINIA

March 1, 1977

LONG-RANGE ENROLLMENT PROJECTIONS 1975-76 to 1987-88

	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88
Doctoral-Granting Institutions													
Fall Headcount	70,331	71,904	73,834	75,463	76,533	77,745	78,859	79,571	79,923	80,098	80,301	80,413	80,407
Regular Session FTE	59,569	61,778	63,468	64,706	65,425	66,363	67,146	67,616	67,806	67,683	67,753	67,759	67,683
Comprehensive Institutions													
Fall Headcount	40,395	42,466	44,045	45,449	46,549	47,607	48,297	48,816	49,168	49,435	49,792	50,042	50,260
Regular Session FTE	34,839	36,324	37,661	38,709	39,535	40,178	40,606	40,846	41,014	41,046	41,109	41,067	41,073
Total													
Fall Headcount	110,726	114,370	117,879	120,912	123,082	125,352	127,156	128,387	129,091	129,533	130,093	130,455	130,667
Regular Session FTE	94,408	98,102	101,129	103,415	104,960	106,541	107,752	108,462	108,820	108,729	108,862	108,826	108,756
Community Colleges													
Fall Headcount	82,504	81,535	90,813	97,440	103,361	107,653	110,209	112,602	114,574	116,020	117,281	118,031	118,674
Regular Session FTE	45,087	44,119	48,003	51,797	54,638	56,699	57,925	58,916	59,772	60,310	60,721	60,904	61,149
Two-Year Branch College													
Fall Headcount	1,076	1,081	1,100	1,120	1,140	1,130	1,130	1,130	1,130	1,130	1,130	1,130	1,130
Regular Session FTE	676	691	705	719	733	729	729	729	729	729	729	729	729
Total													
Fall Headcount	83,580	82,616	91,913	98,560	104,501	108,783	111,339	113,732	115,704	117,150	118,411	119,161	119,804
Regular Session FTE	45,763	44,810	48,708	52,516	55,371	57,428	58,654	59,645	60,501	61,039	61,450	61,633	61,878
Total All Institutions													
Fall Headcount	194,306	196,986	209,792	219,472	227,583	234,135	238,495	242,119	244,795	246,683	248,504	249,616	250,471
Regular Session FTE	140,171	142,912	149,837	155,931	160,331	163,969	166,406	168,107	169,321	169,768	170,312	170,459	170,634

Source: Statistical Analysis of Higher Education for Virginia Council Nov '76 [MARCH 1977]

Attachment B

PROJECTED STUDENT ENROLLMENT, 1975-76 to 1987-88

Institution Radford College Approved by (President) Dr. Donald N. Dedmon Date January 21, 1977

RESIDENT CREDIT INSTRUCTION ONLY

Level		1975-76 Fall Head-Count	1975-76 Reg Session FTE Day	1975-76 Reg Session FTE Evening	1976-77 Fall Head-Count	1976-77 Reg Session FTE Day	1976-77 Reg Session FTE Evening	1977-78 Fall Head-Count	1977-78 Reg Session FTE Day	1977-78 Reg Session FTE Evening	1978-79 Fall Head-Count	1978-79 Reg Session FTE Day	1978-79 Reg Session FTE Evening
Foundation													
Lower: Terminal-Occupational													
Bachelor's Credit		2291	2223	41	2599	2516	46	2807	2717	50	2834	2743	51
Upper		1765	1539	63	1689	1524	62	1637	1476	61	1760	1587	65
First Professional	Law												
	Medicine												
	Dentistry												
Graduate	First Year	639	206	154	567	184	116	570	184	117	570	184	117
	Advanced												
Unclassified		17	xxx	xxx	40	xxx	xxx	40	xxx	xxx	40	xxx	xxx
FTE distributed by level of Course	Foundation	xxx			xxx			xxx			xxx		
	Lower Terminal-Occupational	xxx			xxx			xxx			xxx		
	Lower Bachelor's Credit	xxx	2	0	xxx	3	1	xxx	3	1	xxx	3	1
	Upper	xxx	1	0	xxx	1	1	xxx	1	1	xxx	1	1
	Graduate - First	xxx	0	1	xxx	0	1	xxx	1	1	xxx	0	1
TOTAL		4712	4021 234 4255	239	4895	4233 227 4460	227	5054	4386 4617	231	5204	4523 4759	236

Level		1979-80 Fall Head-Count	1979-80 Reg Session FTE Day	1979-80 Reg Session FTE Evening	1980-81 Fall Head-Count	1980-81 Reg Session FTE Day	1980-81 Reg Session FTE Evening	1981-82 Fall Head-Count	1981-82 Reg Session FTE Day	1981-82 Reg Session FTE Evening	1982-83 Fall Head-Count	1982-83 Reg Session FTE Day	1982-83 Reg Session FTE Evening
Foundation													
Lower: Terminal-Occupational		2359	2768	51	2874	2732	51	2883	2791	51	2373	2736	51
Bachelor's Credit		1838	1703	70	1938	1748	72	1981	1787	73	2025	1827	75
Upper													
First Professional	Law												
	Medicine												
	Dentistry												
Graduate	First Year	570	134	117	570	134	117	570	134	117	570	134	117
	Advanced												
Unclassified		40	xxx	xxx	40	xxx	xxx	40	xxx	xxx	40	xxx	xxx
FTE distributed by level of Course	Foundation	xxx			xxx			xxx			xxx		
	Lower Terminal-Occupational	xxx			xxx			xxx			xxx		
	Lower Bachelor's Credit	xxx	3	1	xxx	3	1	xxx	3	1	xxx	3	1
	Upper	xxx	1	1	xxx	1	1	xxx	1	1	xxx	1	1
	Graduate - First	xxx	0	1	xxx	0	1	xxx	0	1	xxx	0	1
TOTAL		5357	4664	241	5422	4723	243	5474	4771	244	5513	4306	246
			4905			4966			5015			5052	

Level		1983-84 Fall Head-Count	1983-84 Reg Session FTE Day	1983-84 Reg Session FTE Evening	1984-85 Fall Head-Count	1984-85 Reg Session FTE Day	1984-85 Reg Session FTE Evening	1985-86 Fall Head-Count	1985-86 Reg Session FTE Day	1985-86 Reg Session FTE Evening	1986-87 Fall Head-Count	1986-87 Reg Session FTE Day	1986-87 Reg Session FTE Evening
Foundation													
Lower: Terminal-Occupational													
Bachelor's Credit		2871	2779	51	2872	2730	51	2879	2787	51	2864	2772	51
Upper		2064	1361	77	2102	1396	78	2139	1930	79	2174	1961	81
First Professional	Law												
	Medicine												
	Dentistry												
Graduate	First Year	570	134	117	570	134	117	570	134	117	570	134	117
	Advanced												
Unclassified		40	xxx	xxx	40	xxx	xxx	40	xxx	xxx	40	xxx	xxx
FTE distributed by level of Course	Foundation	xxx			xxx			xxx			xxx		
	Lower Terminal-Occupational	xxx			xxx			xxx			xxx		
	Lower Bachelor's Credit	xxx	8	1	xxx	8	1	xxx	8	1	xxx	8	1
	Upper	xxx	1	1	xxx	1	1	xxx	1	1	xxx	1	1
	Graduate - First	xxx	0	1	xxx	0	1	xxx	0	1	xxx	0	1
TOTAL		5545	4833	248	5584	4869	249	5628	4910	250	5648	4926	252
			5081			5113			5160			5178	

Level		1987-88 Fall Head-Count	1987-88 Reg Session FTE Day	1987-88 Reg Session FTE Evening
Foundation				
Lower: Terminal-Occupational		2349	2758	51
Bachelor's Credit		2133	1974	81
Upper				
First Professional	Law			
	Medicine			
	Dentistry			
Graduate	First Year	570	184	117
	Advanced			
Unclassified		40	xxx	xxx
FTE distributed by level of Course	Foundation	xxx		
	Lower Terminal-Occupational	xxx		
	Lower Bachelor's Credit	xxx	3	1
	Upper	xxx	1	1
	Graduate - First	xxx	0	1
TOTAL		5647	4925	252

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II RESIDENT CREDIT INSTRUCTION ONLY

Year	HEADCOUNT First-Time Freshmen	HEADCOUNT Transfers from 2-Year Colleges
Fall 1975	1126	469
Fall 1976	1030	485
Fall 1977	1090	435
Fall 1978	1100	495
Fall 1979	1105	505
Fall 1980	1110	515
Fall 1981	1110	525
Fall 1982	1100	530
Fall 1983	1100	535
Fall 1984	1100	540
Fall 1985	1090	540
Fall 1986	1080	535
Fall 1987	1080	535

Attachment C

be presented. Classified and Teaching and Research Administrative positions for the administration of this program should be identified as a separate element under the subprogram Academic Administration, Personnel Development, and Course and Curriculum Development.

3. PUBLIC SERVICE

No guidelines are provided for this program. Each institution should provide justification in its Budget Exhibit for the requested appropriations for each subprogram within this program. Refer to the instructions for preparing the Budget Exhibit for instructions on the manner in which justification should be presented. Classified and Teaching and Research Administrative positions for the administration of this program should be identified as a separate element under the subprogram Academic Administration, Personnel Development, and Course and Curriculum Development.

4. ACADEMIC SUPPORT

A. LIBRARIES

(1) Number of Classified (support personnel) and Teaching and Research Administrative (professional librarians holding faculty rank) Positions

(a) Basic Staffing Regardless of Enrollment

(1) Doctoral granting institutions which do not satisfy the most current membership criteria of the Association of Research Libraries: 9 FTE Classified and Teaching and Research Administrative positions.

(2) Comprehensive colleges, liberal arts colleges and specialized institutions: 9 FTE Classified and Teaching and Research Administrative positions.

(3) Two-year institutions: 3 FTE Classified and Teaching and Research Administrative positions. For multi-campus institutions, add 1 FTE position for each campus beyond one.

(b) Additional staffing requirements

(1) Doctoral granting institutions which do not satisfy the most current membership criteria of the Association of Research Libraries: Add 1 FTE position for every 400 undergraduate Annual (General Academic and Summer Session) FTE students, 1 for every 100 graduate and first-professional Annual FTE students, and 1 for every 35 FTE Teaching and Research Instructional positions in General Academic Instruction and Summer Session Instruction.

(2) Comprehensive colleges, liberal arts colleges and specialized institutions: Add 1 FTE position for every 400 Annual FTE students and 1 for every 40 Annual FTE Teaching and Research Instructional positions in General Academic Instruction and Summer Session Instruction.

(3) Two-year institutions: Add 1 FTE position for every 500 Annual FTE students and 1 for every 50 Annual FTE Teaching and Research Instructional positions in General Academic Instruction and Summer Session Instruction.

(c) Number of Classified and Teaching and Research Administrative Positions in the Libraries of doctoral granting institutions which meet the most current membership criteria of the Association of Research Libraries (ARL) -- The guideline for staffing is established by the mean level of staffing of the group of 20 ARL institutions with the Virginia institution as its median. To make this calculation, establish that group of 20 ARL institutions of which the Virginia institution is the median in terms of number of volumes held. Then calculate the mean level of staffing for the group of 20. Use the number of volumes anticipated on hand as of July 1, 1978 and July 1, 1979 to calculate staffing for 1978-79 and 1979-80, respectively.

(d) As a general guideline Teaching and Research Administrative Positions should not exceed 40 percent of the total full-time staffing provided by the preceding guidelines. These guidelines do not include wage equivalents for hourly personnel such as student assistants. Libraries engaged in systems development projects, inter-institutional staff sharing, or other efforts involving staff reductions by means of substitution of alternate methods and systems for work performed should state this fact if the 40 percent guideline is exceeded.

Last 3 position here last biennium because of 40% same wording "as general rule."

(2) Equipment: Books and Periodicals -- The dollar amount provided by the guidelines for these expenditures is intended to enable institutions to maintain their current collections and, in libraries which are deficient in their holdings, to provide funds to correct some portion of the calculated deficiency.

(a) In requesting funding to attain the maintenance objective, doctoral granting institutions which meet the most current membership criteria will calculate the number of volumes (books and periodicals) required as of July 1 of each fiscal year of the Biennium according to the Voigt Formula. Application of the Voigt Formula will define the volume needs as of July 1, 1978, and July 1, 1979, based on approved graduate programs, approved undergraduate enrollments, sponsored research expenditures, and accessibility to other research libraries. Maintenance funding is calculated by multiplying the volume requirements which the formula generates by a standard cost per volume of $19.65 in 1978-79 and $20.80 in 1979-80.

The use of the volume requirements as defined by the Voigt Formula will concentrate on maintaining the currency of the Library's collection. Detailed procedures for preparing the request for maintenance are provided in the instructions for

preparing the Budget Exhibit. These procedures must be followed carefully in preparing and supporting maintenance requests.

(b) In requesting funding for maintenance of the library collection, institutions which do not meet the Association of Research Libraries membership criteria will calculate the funding required as of July 1 of each fiscal year of the Biennium according to the Virginia Maintenance Formula. Application of the Virginia Maintenance Formula will define the funding needs as of July 1, 1978 and July 1, 1979, based on approved degree programs, the levels of those programs, and the level (Lower, Upper, Graduate) of enrollment. The funding defined by the Virginia Maintenance Formula concentrates on maintaining the currency of the library's collection. Detailed procedures for preparing the request for maintenance are provided in the instructions for preparing the Budget Exhibit. These procedures must be followed carefully in preparing and supporting maintenance requests.

(c) Institutions showing a major deficiency in library holdings according to the Clapp-Jordan formula may request additional funds for materials to decrease the deficiency. Such requests should include justification displaying Clapp-Jordan formula calculations; no forms are provided for deficiency calculations.

B. MUSEUMS AND GALLERIES

No guidelines are provided for this subprogram. Each institution should provide justification in its Budget Exhibit for the requested appropriations for each element within the subprogram. Refer to the instructions for preparing the Budget Exhibit for details on the manner in which justification should be presented.

TABLE 10. LIBRARY STAFFING - CLASSIFIED AND [illegible]

Year (1)	Basic Staffing (2)	Annual FTE Undergrad Students (3)	Number of Positions (4)	Ratio (3÷4) (5)	Annual FTE Grad & First Professional Students (6)	Number of Positions (7)	Ratio (6÷7) (8)	Teaching and Research Instructional Positions (9)	Number of Positions (10)	Ratio (9÷10) (11)	Total Positions Cols. 2+4 +7+10 (12)
	Total Positions										
	Additional Staffing										
1978-79 Requested											
1979-80 Requested											

Year (1)	Total Positions (2)	Number of Classified Positions (3)	Classified As Percent of Total Positions (3÷2) (4)	Number of Teaching and Research Administrative Positions (5)	Teaching and Research Administrative Positions As Percent of Total Positions (5÷2) (6)
	Classified and Teaching and Research Administrative Positions				
1976-77 Actual					
1977-78 Estimated					
1978-79 Requested					
1979-80 Requested					

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(B) Maintenance Funding

(1) Institutions which meet the most current membership criteria of the Association of Research Libraries will use the Voigt Formula, as described in this Appendix, to calculate the annual increase in the number of book and periodical volumes required by the institution as of July 1, 1978, and July 1, 1979. The annual volume increases will be multiplied by prescribed per volume costs to arrive at the total dollar request for the maintenance of the library for each year of the 1978-80 Biennium.

Table 11 outlines the Voigt Formula for calculating required volume increases and provides the prescribed per volume costs. The table should be completed and footnoted in conformance with the procedures outlined. The calculations will provide the total dollar figure which may be requested for maintenance funding for each year of the Biennium. Request these sums under Sub-object Code 1593.

Provide an explanation in the Budget Exhibit which relates the volume additions requested, to the staff, physical facilities, and other available library resources. If the resources available are not sufficient to accommodate the additional volumes computed, provide an estimate of the maximum number of volumes which could be accommodated and request funding on that basis.

TABLE 11. CALCULATION OF MAINTENANCE FUNDING BASED ON VOIGT FORMULA

Factors	1978-79	1979-80
a. Volume Base	40,000	40,000
b. Program Subtractions	( )	( )
c. Grad. Program Additions:		
Foreign Literatures		
Social Sciences		
Earth Science, Astronomy		
d. Grad. School Additions:		
Agriculture 5,000		
Architecture 1,000		
Art 3,000		
Business Administration. 2,000		
City and Regional Planning 2,000		
Drama 2,000		
Education 3,000		
Engineering ..... 1,000 per major area 4,000 maximum		
Law 8,000		
Library Science 1,000		
Medicine 8,000		
Medicine-Related Professions ..... 1,000 per major area 4,000 maximum		
Music 3,000		
Oceanography..... 3,000		
Religious Studies..... 2,000		
Social Welfare 1,000		
Veterinary Science..... 2,000		
e. Undergraduate Supplement		
f. Sponsored Research Addition		
g. Access Factor Addition		
h. Total - Additional Volumes		
i. Per Volume Cost	$19.65	$ 20.80
j. Total - Maintenance Funding		

Each of the factors in Table 11 is to be calculated as set forth below:

a. A base of 40,000 volumes is the foundation of the formula and it will remain fixed across institutions and across years.

b. The formula assumes that an institution offers a Ph.D. in the following fields: American/English, 2 European Literatures, 3 Social Sciences, Chemistry, Physics, Biology, Mathematics, History, Psychology, and Philosophy. For each of these fields in which the institution does not offer a Ph.D., 1000 volumes will be subtracted.

   To be counted as offering a Ph.D. in a given field, the institution must have the program approved at the doctoral level by the Council of Higher Education, to be offered during the academic years 1977-78 and 1978-79, including programs given planning approval. The total subtraction should be determined for each year by totaling the number of required programs which the institution lacks and multiplying this total by 1000. Insert the derived subtractions in the parentheses on line b. These entries should be footnoted. The footnote should include a list of the approved programs which the institution offers in each year of the Biennium.

c. For each approved doctoral program offered in Foreign Literatures, Social Sciences, Earth Sciences and Astronomy not included in the above calculation, 2000 volumes will be added.

   The total addition rate should be determined for each year by totaling the number of programs and multiplying this total by 2000. Insert the derived additions on line c. These entries should be footnoted by listing the programs which the institution included in the calculations for each year of the Biennium.

d. Addition rates are cited on the table for a number of doctoral programs. For each listed program in which the institution has been approved by the Council of Higher Education to offer a doctoral

degree, insert the appropriate addition rate across from the program for each year of the Biennium.

e. The following formula should be used to calculate volume additions for each year of the Biennium based on undergraduate enrollments:

Approved (1978-79/1979-80)

Undergraduate Annual (General Academic and Summer Session) FTES - 5000 ÷ 2 = Volume Additions

The entries for each year should be footnoted with the enrollment figures used in the calculation.

f. The following formula should be used to calculate volume additions for each year of the Biennium based on Sponsored Research expenditures:

Projected (1978-79/1979-80)

÷ 15,000 = Volume Additions

Sponsored Research Expenditures

The entries for each year should be footnoted with the projected Sponsored Research expenditure figures used in the calculation and a justification for these projections.

g. To account for lack of access to other research libraries, there is an addition rate of 10,000 volumes if the travel time to a research library of two million or more volumes is one to two hours each way and an addition of 20,000 volumes if the travel time is more than two hours each way.

Insert the appropriate figures on line g and justify them in a footnote including the closest research library and the travel time to it.

h. On line h, total the figures on lines a and c through g and subtract line b.

i. The per volume cost figures of $19.65 for 1978-79 and $20.80 for 1979-80 are standard across institutions.

j. The Total Additional Volumes (line h) should be multiplied by the Per Volume Cost (line i) to arrive at the Total Maintenance Funding for each year of the Biennium.

(2) Senior institutions which have libraries not meeting the Association of Research Libraries membership criteria will utilize the Virginia Maintenance Formula, as described in this Appendix, to calculate the maintenance funding required by the institution for each year of the 1978-80 Biennium.

Table 12 derives weights based on the types of programs at each institution and the levels at which they are offered. The table should be prepared as set forth below:

(a) Programs to be considered are those approved by the Council of Higher Education to be offered during the academic years 1977-78 and 1978-79, including programs given planning approval.

(b) Programs will be counted at each level at which they have been approved.

(c) Multiple programs offered within a given Hegis discipline division will be considered as a single program except where specified in the table.

(d) Each institution will incorporate the General Component (reference materials) weight at the Bachelor level.

(e) The weights should be totaled by level of offering.

(f) If the approved programs differ between the two academic years of the Biennium, Table 12 should be completed independently for each year.

The program weights derived in Table 12 will be weighed, totaled, and combined with an enrollment weight to produce the required annual Maintenance Funding. Table 13 outlines this procedure and should be completed as follows:

(a) The total bachelor, masters, and doctoral weights (on Table 12) are to be inserted on lines 1, 2, and 3 on Table 13. (Doctoral level weights are multiplied by 2.)

(b) The three figures for each year should be totaled to produce a Total Program Weight (line 4) for each year of the Biennium.

(c) Program magnitude should be calculated as a total of the programs (by 4-digit HEGIS Classification) which have been approved by the Council of Higher Education to be offered in the academic years 1977-78 and 1978-79, including those given planning approval. To determine the program magnitude weight, the number of bachelor, masters, and doctoral programs are multiplied by 1, 2, and 4 respectively. The adjusted number of programs is then compared to the table below to derive the program magnitude weight (line 5).

If the adjusted number of programs =

1 - 25,	Program Magnitude Weight = 0.80
26 - 50,	Program Magnitude Weight = 0.85
51 - 75,	Program Magnitude Weight = 0.90
76 - 100,	Program Magnitude Weight = 0.95
101 - 200,	Program Magnitude Weight = 1.00
200 + ,	Program Magnitude Weight = 2.00

(d) The Total Program Weight should be multiplied by the Program Magnitude Weight to produce the Institutional Program Weight (line 6) for each year of the 1978-80 Biennium.

(e) The 1978-79 and 1979-80 Institutional Program Weights should be multiplied by $15,095 and $15,975, respectively, to arrive at the funding base (line 8) on program offerings.

(f) An enrollment weight should be calculated for each year of the Biennium based on approved Regular Session, On-Campus FTE enrollments.

The formula for calculating the enrollment weight is as follows:

$$\frac{1\,(\text{lower level FTES}) + 1.5\,(\text{upper level FTES}) + 3\,(\text{masters FTES}) + 4.5\,(\text{doctoral FTES})}{\text{Total FTES}} = \text{Enrollm weigh}$$

The enrollment weight for each year should be reported on line 9 of Table 13 and the calculations displayed in a footnote to the table.

(g) Each year's enrollment weight should be multiplied by the corresponding Program Funding to arrive at the Total Maintenance Funding (line 10) for each year of the 1978-80 Biennium.

(h) Senior institutions utilizing the Virginia Maintenance Formula which have professional programs in Law or Medicine may calculate additional maintenance funding using the appropriate volume additions in the Voigt formula (Table 11). The additional funding for first professional programs in each year of the 1978-80 Biennium should be added to the totals on Table 13.

(3) The Community Colleges will utilize a modified version of the Virginia Maintenance Formula, as described in this Appendix, to calculate required maintenance funding for each year of the 1978-80 Biennium. Table 14 should be utilized to calculate the required funding. The following procedures should be followed in completing the table.

(a) Each college will receive the Standard Weight for the General Component (reference materials). For multi-campus institutions, the weight should be multiplied by the number of campuses.

(b) The College Transfer and Occupational-Technical Programs to be included in the calculations are those which have been approved by the Council of Higher Education to be offered during the academic years 1977-78 and 1978-79, including those given planning approval.

(c) If multiple programs are offered in one of the College Transfer or Occupational-Technical Program areas listed on Table 14, they will be considered as a single program.

(d) For multi-campus institutions, the weights for the College Transfer and Occupational-Technical Programs should be multiplied by the number of campuses which offer the specific program area to arrive at the weights for each year of the Biennium.

(e) The General Component, College Transfer, and Occupational-Technical Weights should be totaled for each year to produce a Total Institutional Program Weight.

(f) The 1978-79 and 1979-80 Institutional Program Weights should be multiplied by the funding bases of $15,095 and $15,975, respectively, to derive the Total Maintenance Funding for each year of the 1978-80 Biennium.

TABLE 12. CALCULATION OF PROGRAM WEIGHTS BY LEVEL

Indicate year for which calculation is made. 1978-79
Provide a seperate calculation for each year of the Biennium. 1979-80

HEGIS CODE	PROGRAM DESCRIPTION	WEIGHT	LEVEL OF OFFERING BACHELOR	MASTERS	DOCTORAL
0100	Ag. & Nat. Res.	.030			
0200	Architecture	.150			
	0301-0314 each, add	.010			
0400	Biology	.609			
0500	Business	.139			
0600	Communications	.056			
0700	Computer & Info. Sci.	.085			
0800	Education	.301			
0900	Engineering	.750			
1000	Fine Arts	.100			
	1002-1003 Art, add	.569			
	1004-1006 Music, add	.166			
1100	Mod. For. Lang.	.192			
	1102-1199 each, add	.020			
1200	Health Prof.	.085			
	1203, Nursing, add	.070			
1300	Home Econ.	.041			
1500	Letters	1.000			
	1504 Classics, add	.017			
	1506 Speech, add	.030			
	1509 Philosophy, add	.146			
	1510 Religious Stud., add	.347			
1600	Lib. Science	.055			
1700	Math.	.264			
1900	Phys. Sci.	.055			
	1902-1904, Physics, add	.212			
	1905-1910, Chem., add	.559			
	1914-1918, Geol., add	.227			
	1919, Oceanog., add	.200			
2000	Psych.	.257			
2100	Pub. Affairs	.085			
2200	Soc. Sci.				
	2202, Anthrop., add	.097			
	2204, Econ., add	.304			
	2205, Hist., add	.988			
	2206, Geog., add	.029			
	2207, Poly Sci. & Gov., add	.404			
	2208-2299, Soc., add	.244			
General Component		2.305	2.305		
TOTAL					

TABLE 13. CALCULATIONS OF MAINTENANCE FUNDING FOR SENIOR COLLEGES AND UNIVERSITIES.

		1978-79	1979-80
1	Total Bachelor Weight		
2	Total Masters Weight		
3	Total Doctoral Weight x 2		
4	Total Program Weight		
5	Program Magnitude Weight		
6	Institutional Program Weight		
7	Base Figure	$15,095	$15,975
8	Program Funding		
9	Enrollment Weight		
10	Total Maintenance Funding		

TABLE 14. CALCULATION OF MAINTENANCE FUNDING FOR COMMUNITY COLLEGES

PROGRAM					
Hegis Code	Description	Weight	Campuses	1978-79	1979-80
	General Component	1.1520			
	College Transfer				
0500	Business	.0695			
0800	Education	.1505			
0900	Engineering	.2500			
1001	Fine Arts	.0500			
1004	Music	.0830			
	Occupational-Technical:				
5000	Business & Commerce Tech.	.0347			
5100	Data Processing Tech.	.0212			
5200	Health Services & Paramedical Technologies	.0437			
5300	Mechanical & Engineering Technologies	.0280			
5400	Natural Science Technologies	.0075			
5500	Public-Service Related Technologies	.0213			
Total Institutional Program Weight					
Funding Base				$15,095	$15,975
Total Maintenance Funding					

TABLE 15 – SUMMARY OF LIBRARY EXPENDITURES

Block		Actual 1976-77	Estimated 1977-78	1978-79		1979-80	
				Guideline	Requested	Guideline	Requested
1	Classified Positions A. Number						
	B. Cost 1. Total Salaries						
	2. Average Salary						
2	Not Applicable						
3	Teaching and Research Administrative Positions A. Number						
	B. Cost 1. Total Salaries						
	2. Average Salary						
4	Other Personal Service A. Total Wage and Salary Expenditures						
	B. Other Personal Service Expenditures as a Percent of Total Activitiy Expenditures						
5	Other Objects of Expenditure A. Total Expenditures						
	B. Expenditures As a Percent of Total Activity Expenditures						
6	Total Expenditures						

Attachment D

ATTACHMENT
D

RADFORD COLLEGE
RADFORD, VIRGINIA 24141

OFFICE OF THE LIBRARY DIRECTOR

TELEPHONE (703) 731-5472

M E M O

TO: Educational Resources Information Center (ERIC)
National Institute of Education
Washington, DC 20208

FROM: CEH C. Edward Huber, Library Director
Radford College, Virginia 24142

DATE: 21 September 1976

SUBJECT: Report of Staffing Recommendations for
Virginia Institutions of Higher Education

Submitted herewith are two copies of a document for inclusion in the ERIC system.

Attachments (2)

REPORT SUMMARY

Huber, C. Edward

Ad Hoc Subcommittee on Staffing: Report to the Library Advisory Committee of the State Council of Higher Education for Virginia.

Radford College, Virginia
Publication Date——15 June 76
Note——30 p.
Descriptors——Library Surveys, Librarians, Staff Utilization, Personnel Needs, Library Research.
Identifiers——Academic Library Staffing.

The current formula for Staffing Libraries and Learning Resource Centers in Virginia public institutions of higher education was examined by a subcommittee of Library Directors. A questionnaire was sent to every applicable state institution to (1) gather input variables, (2) develop the "ideal" staffing profile at each college, as perceived by the individual Directors, and (3) to determine actual staffing data. Pearson product moment correlations were calculated between selected formulas from other states and national guidelines, and the "ideal" profile. Then "least squares" was computed. A modified version of the Library Staffing formula used until recently in the State University of New York system was recommended to the State Council of Higher Education for Virginia.

(CEH)